

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A pixel for use in a CMOS imaging array, said pixel having a PN photodiode comprising:
a semiconductor substrate having a first conductivity type; and
a well of a second conductivity type formed in the semiconductor substrate, the surface of said first well being passivated by a nitrogen dopant, wherein said nitrogen dopant extends down from said surface by about 100-500 angstroms.
2. (cancelled)
3. (original) The pixel of Claim 1, wherein said nitrogen dopant has a concentration of about 1×10^{14} to $1 \times 10^{16}/\text{cm}^2$.
4. (original) The pixel of Claim 1, further including a silicon oxide layer over said first well.
5. (original) The pixel of Claim 1, further including a silicon oxynitride layer over said first well.
6. (original) The pixel of Claim 1, wherein said nitrogen dopant is introduced using ion implantation.
7. (original) The pixel of Claim 1, wherein said nitrogen dopant is introduced using a thermal diffusion.
8. (cancelled)
9. (currently amended) The pixel of Claim 18, wherein said nitrogen dopant is replaced with an oxygen or silicon dopant, wherein said oxygen or silicon dopant extends down from said surface by about 100-500 angstroms.

10. (currently amended) The pixel of Claim 98, wherein said oxygen or silicon dopant has a concentration of about 1×10^{14} to $1 \times 10^{16}/\text{cm}^2$.
11. (currently amended) The pixel of Claim 18, further including a silicon oxide layer over said first well.
12. (currently amended) The pixel of Claim 18, further including a silicon oxynitride layer over said first well.
13. (currently amended) A pixel for use in a CMOS image sensor comprising:
a PN photodiode, the surface of said PN photodiode being passivated with a nitrogen dopant implant, wherein said nitrogen dopant extends down from said surface by about 100-500 angstroms;
a reset transistor coupled to the photodiode for resetting the signal level on the photodiode;
a buffer transistor, the gate of the buffer transistor being coupled to the output of the photodiode; and
a row select transistor, the gate of the row select transistor being coupled to a row select signal line, the input of the row select transistor being coupled to the output of the buffer transistor, and the output of the row select transistor providing the output of the pixel sensor cell.
14. (currently amended) The pixel of Claim 13, wherein said nitrogen dopant is replaced with an oxygen, ~~hydrogen~~, or silicon dopant.
15. (cancelled)
16. (original) The pixel of Claim 13, wherein said nitrogen dopant has a concentration of about 1×10^{14} to $1 \times 10^{16}/\text{cm}^2$.
17. (original) The pixel of Claim 13, further including a silicon oxide layer over said first well.

18. (original) The pixel of Claim 13, further including a silicon oxynitride layer over said first well.
19. - 27. (cancelled)